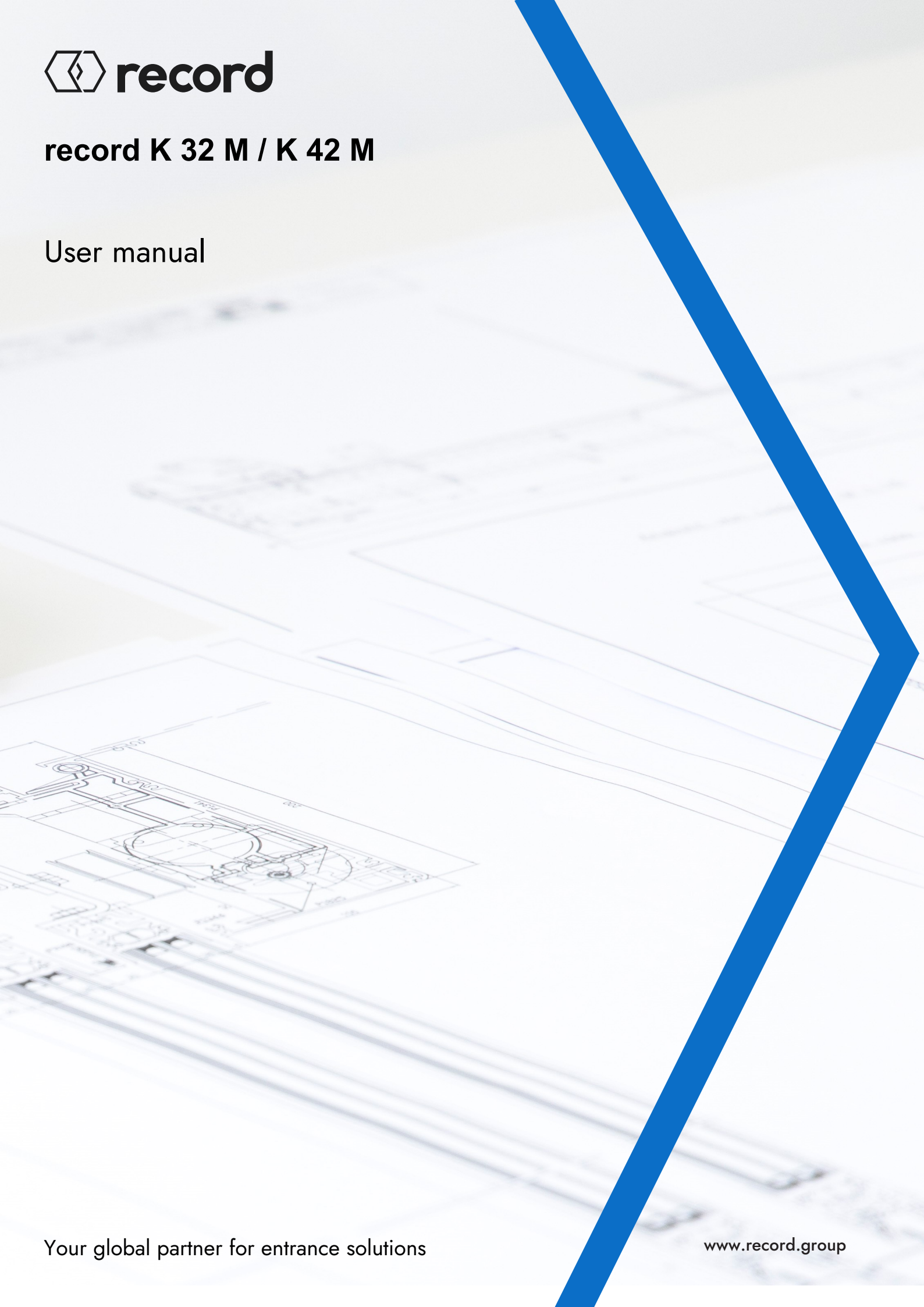
record

record K 32 M / K 42 M

User manual



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Translation of the original manual

Subject to technical modifications

Table of Contents

List of changes

Change	Location
Complete revision of all Sections and content	Entire document
New Section structure	Entire document
Revision of all graphics	Entire document

1 Safety

1.1 Presentation of warning signs

Various symbols are used in this guide for easier understanding:

NOTICE

Useful advice and information to ensure correct and efficient workflow of the system.

IMPORTANT

Specific details which are essential for trouble-free operation of the system.

IMPORTANT

Important details which must be read for proper function of the system.

CAUTION

Against a potential hazardous situation that can lead to minor personal injury and property damage.

WARNING

Against a latent hazardous situation that can lead to severe injuries or death and cause substantial property damage.

DANGER

Against an imminent hazardous situation that can lead to severe injury or death.

DANGER

Against an imminent or latent hazardous situation that could lead to electric shock and cause serious injury or death.

1.2 Intended purpose of use

The system is designed exclusively for use as a pedestrian passage. The installation must only occur in dry areas. If there are deviations then proper waterproofing and water drains will be required on-site.

Any other application or use beyond this purpose is not considered to be an intended purpose. The manufacturer bears no liability for any resulting damage; the operator alone shall bear the associated risk.

The intended purpose also includes observation of the operating conditions specified by the manufacturer, in addition to regular care, maintenance and repair.

Interventions in or alterations to the installation performed by non-authorized maintenance technicians exclude the manufacturer's liability for consequential damages.

1.3 General hazards

The following section lists hazards that can be caused by the system even when used as intended.

To reduce the risk of malfunction, damage to property or injury to persons and to avoid dangerous situations, the safety instructions listed here must be observed.

The specific safety instructions in the other sections of this manual must also be observed.

IMPORTANT

The country-specific regulations must be observed and complied with!

IMPORTANT

To avoid malfunctions, moving objects such as flags or parts of plants must not be allowed to enter the detection range of the sensors.

CAUTION

Risk of malfunctions, material damage or injury due to improper settings!

a) Improper settings can lead to malfunctions, material damage or personal injury.

⇨ Do not disconnect the system from the power supply overnight.

⇨ Settings should only be made by personnel qualified to do so.

⇨ Do not disassemble, put out of operation or manipulate safety devices.

⇨ Have faults rectified by specialist personnel or by personnel qualified to do so.

⇨ Have service and maintenance carried out according to locally applicable regulations or according to a maintenance contract.

CAUTION

Risk of malfunctions, material damage or injuries due to insufficient or missing cleaning or care!

a) Insufficient or inattentive cleaning or care of the system can lead to malfunctions, damage to property or injury to persons.

⇨ Check the sensors regularly for dirt and clean them if necessary.

⇨ Regularly remove dirt accumulations in the floor rail or under the floor mat.

⇨ Keep the system free from snow and ice.

⇨ Do not use aggressive or caustic cleaning agents.

⇨ Use road salt or loose chippings only conditionally.

⇨ Lay the floor mat without folds and flush with the floor.

⇨ Equipment required for cleaning purposes such as ladders or similar must not be leaned on or attached to the system.

CAUTION

Risk of material damage or injury due to unforeseen opening, closing or turning of the door!

a) The door can open, close or turn unexpectedly. This may result in damage to property or injury to persons.

⇨ No persons may be present in the opening area of the system.

⇨ Ensure that moving objects such as flags or parts of plants do not enter the detection range of the sensors.

⇨ Do not make any settings on the control unit when the system is in use.

⇨ Have faults rectified immediately by specialist or personnel qualified to do so.

⇨ Remove objects from the opening area.

⇨ Do not disassemble, put out of operation or manipulate safety devices.

⇨ Do not rush through a closing system.

CAUTION

Risk of bruising and severing of limbs!

a) If the system moves, careless behaviour can lead to serious injuries to limbs or severance of limbs.

⇨ Do not reach in when parts of the system are moving.

⇨ Keep a distance when parts of the system move.

⇨ Do not bump into or touch the system when it is moving.

⇨ Do not open or remove protective covers during operation.

⇨ Do not permanently remove covers from the system.

⇨ Only carry out inspection, service, maintenance and cleaning when the system is stationary and switched off.

CAUTION

Danger of material damage or injury due to non-functioning safety devices!

a) If safety devices are not functioning, manipulated or put out of operation, there is a risk of damage to property or injuries that can lead to death.

⇨ Never disable or manipulate safety devices.

⇨ Have inspection, service and maintenance of the safety devices carried out according to local regulations or according to a maintenance contract.

CAUTION

Danger of malfunctions, damage to property or risk of injury if used by unauthorised persons!

a) If unauthorised persons use the system, there is a risk of malfunction, damage to property or injury to persons.

⇨ Children under 8 years of age may only use the system under supervision.

⇨ Children must not play, clean or maintain the system.

⇨ Persons with limited physical, sensory or mental abilities as well as persons with insufficient knowledge or experience may only use the system under supervision or must have received and understood instructions to do so.

DANGER

Danger to life due to electric current!

a) In case of contact with live parts, there is an immediate danger to life due to electric shock. Damage to or removal of the insulation or individual components can be life-threatening.

⇨ Before starting work on active parts of electrical systems and equipment, ensure that all poles are voltage free and that this is maintained for the duration of the work.

⇨ Keep moisture away from live parts. This can lead to a short circuit.

⇨ Never bridge fuses or put them out of operation.

⇨ Do not connect the power supply until all work has been completed.

⇨ Have work on the electrical system performed by qualified personnel only.

DANGER

Danger to life due to non-functioning safety devices of the fire protection system!

a) If safety devices of the fire protection system do not function properly, there is a risk of serious or fatal injuries.

⇨ Never disconnect the fire protection system from the power supply overnight.

⇨ Do not disassemble, put out of operation or manipulate safety devices.

⇨ Do not remove safety instructions on the system.

⇨ Never block, hold open or otherwise prevent fire doors from closing.

⇨ Have inspection, service and maintenance of the fire protection system carried out in accordance with locally applicable regulations or according to a maintenance contract.

⇨ Have the fire protection system checked and maintained according to the state of the art.

1.4 State of technology

This system was developed using state of the art technology and officially recognized technical safety regulations. The system, depending on its options and diameter, comply with the requirements of the Machine Guidelines 2006/42/EG as well as EN 16005 and DIN 18650 (D).

Nevertheless, danger may arise if not used as intended.

IMPORTANT

Installation, commissioning, inspection, maintenance and repair work may only be conducted by qualified, trained and authorized technicians.
After commissioning or repair work, fill in the check list and give it to the customer for safe keeping.
We recommend obtaining a service agreement.

1.5 Personal protective equipment

Personal protective equipment is used to protect persons from adverse effects on health. Personnel must wear personal protective equipment during the various work activities on and with the system.

Personal protective equipment is explained below:

Hearing protection is used to protect the hearing from noise. As a rule of thumb, hearing protection is compulsory from when normal conversation with other people is no longer possible.

The head protection serves to protect against falling and flying parts and materials. It also protects the head from bumping into hard objects.

Protective goggles protect the eyes from flying parts, dust, splinters or splashes.

Protective gloves are designed to protect hands from friction, abrasions, punctures or serious injury and from burning caused by contacting hot surfaces.

Safety shoes protect the feet from crushing, falling parts and slipping on surfaces. The puncture resistance of the shoes ensures, that pointy objects do not penetrate the foot.

The high-visibility vest is used to make the personnel stand out and therefore to be seen. With improved visibility and attention, the high-visibility vest protects personnel in busy work areas from collisions with vehicles.

Depending on the place of work and the working environment, the protective equipment varies and must be adapted accordingly. In addition to protective equipment for specific work, the work site may require other protective equipment (for example a harness).

In hygiene-protected areas, special or additional requirements of personal protective equipment may be required. These requirements must be considered when choosing personal protective equipment. If there is any uncertainty regarding the choice of personal protective equipment, the safety officer must be consulted at the place of work.

1.6 Spare parts and liability

Reliable and trouble free operation of the door is only guaranteed when using parts that were recommended by the manufacturer. The manufacturer declines any liability for damages resulting from unauthorized modifications to the door or the use of parts that are not permitted.

2 General information

2.1 Purpose and use of the instructions

These instructions are an integral part of the system and enable efficient and safe handling of the system. In order to ensure proper functioning, the instructions must be accessible at all times and kept in the immediate area of the system.

Although only the male form has been chosen for reasons of better legibility, the information refers to members of both sexes.

The operator must have read and understood the manual before starting any work. The basic requirement for safe working is to follow the safety instructions and the handling instructions. In addition, the local regulations and safety rules apply.

The manual can be handed over in extracts to instructed personnel who are familiar with the operation of the system.

The illustrations are for basic understanding and may differ from the actual presentation. Specific representations are contained in the drawings.

2.2 Copyright

Subject can change without prior notice.

Differences between product and manual are thereby possible.

2.3 Product identification

The nameplate located on the door provides accurate identification of the product.

2.4 Manufacturer BLASI GmbH

BLASI GmbH Automatic Door Systems

Carl-Benz-Str. 5-15

D-77972 Mahlberg

Germany

Telephone: +49 7822-893-0

Fax: +49 7822-893-119

2.5 Target groups

CAUTION

Risk of injury if personnel are insufficiently qualified!

If unqualified personnel work on the system or are in the danger zone of the system, dangers may arise which can cause serious injuries and considerable damage to property.

a) All work must be carried out by qualified personnel only.

b) Keep unqualified personnel away from danger areas.

This operating manual is intended for the target groups listed below:

– Operating entity of the system:
the person who is responsible for the technical maintenance of this system

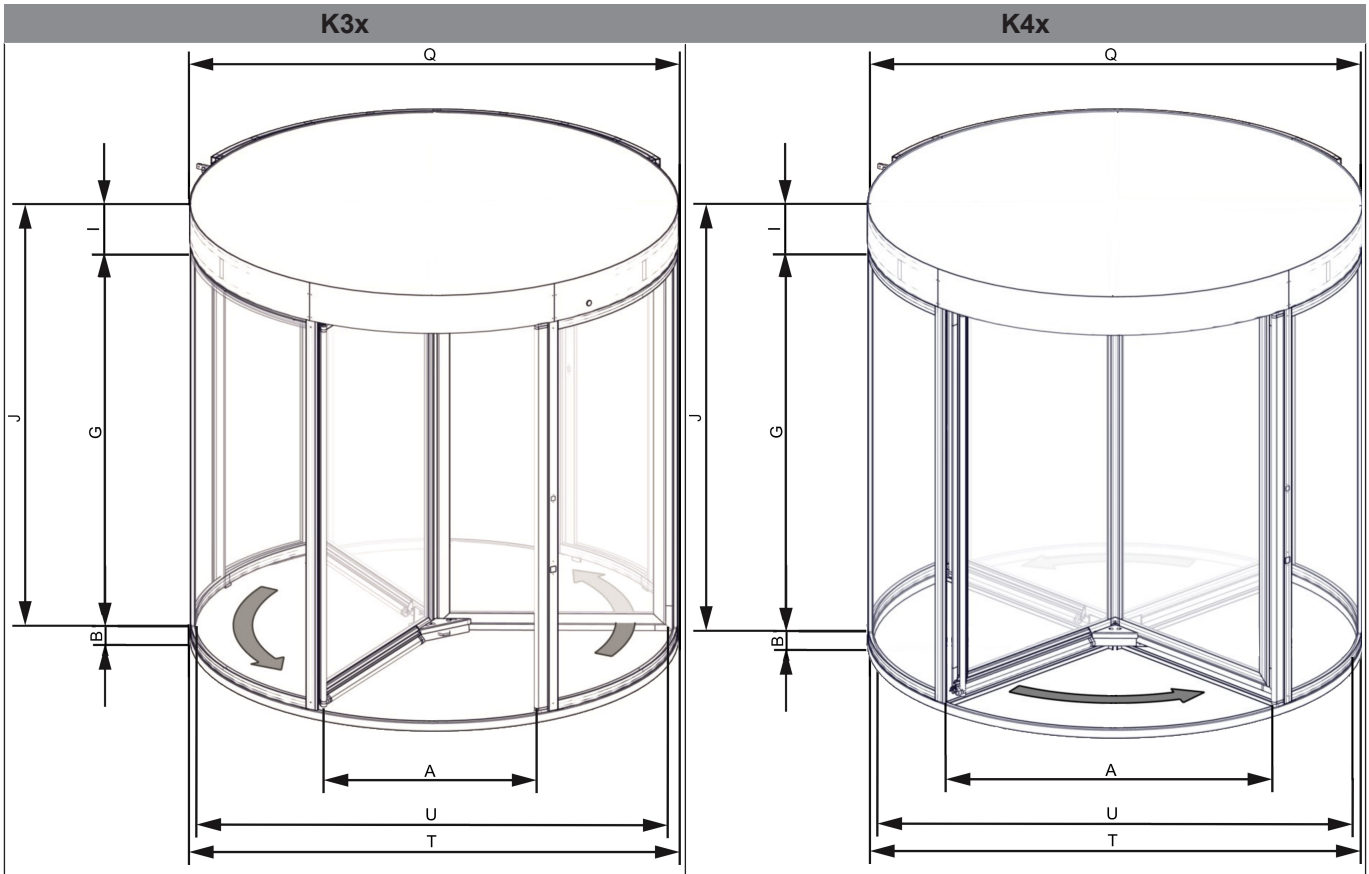
– Operator of the system:
the person who operates the system every day and has been suitably instructed

2.6 Definition of terms

Term:	Explanation:
System	The term is also used in these instructions as a synonym for the product. Door operators, revolving doors, sliding doors, etc. are referred to as a system. If information in these instructions refers to a specific type, this is shown accordingly in the text.
User	Users are all persons who use the system.
System operator	The respective owner is referred to as the system operator, regardless of whether they operate the system as the owner or pass it on to third parties.
Authorized representative	The authorized representative takes over certain parts of the manufacturer's obligations with regard to fulfilling the requirements of the Machinery Directive. In particular, the authorized representative may also place the system on the market and/or sign EC declarations of incorporation.
Qualified personnel	Qualified personnel are authorized and appropriately trained to perform the following work: – Disassembly, Assembly, Commissioning, Operation, Audit, Maintenance, Troubleshooting, Decommissioning The qualified personnel have several years of professional experience in the technical field, e.g. as mechanics or machine fitters. The qualified personnel are aware of the residual risks arising from the installation site and, due to their professional training, knowledge and experience, are able to carry out the work assigned to them and to independently identify and avoid possible danger points.
Manufacturer	The manufacturer is whoever designs and/or builds machinery or incomplete machinery under the scope of the Machinery Directive.
Life phases	All phases of the system's condition and use are referred to as life phases. This applies from the time the system leaves the factory until it is disposed of.
Personnel	All persons who carry out activities on and with the system are referred to as personnel. Personnel can be, for example, the operator, the cleaning staff, or the security staff. The personnel meet the personnel qualifications required by the manufacturer.
Service technician	Experts and specialists or representative authorized by the manufacturer to perform commissioning, maintenance and servicing.

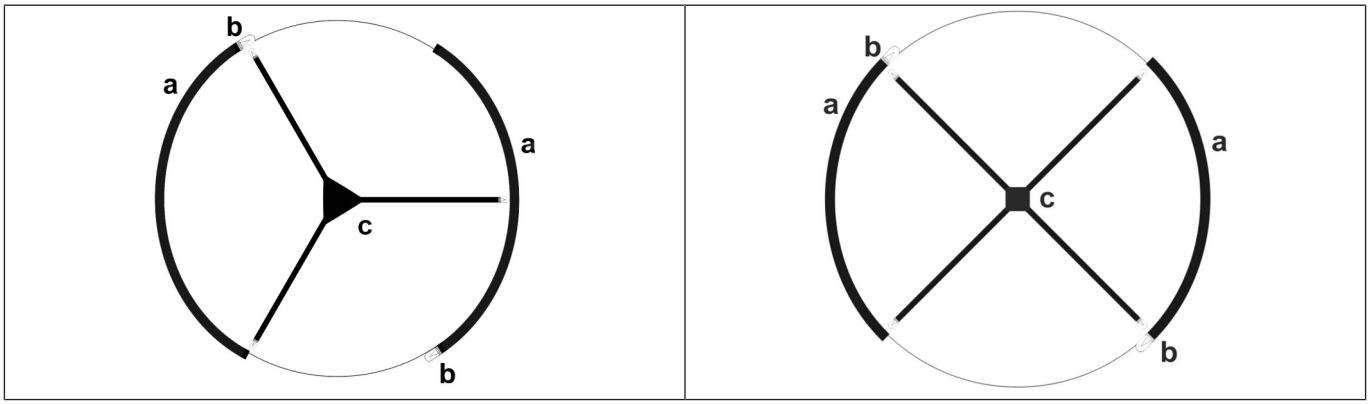
3 Description

3.1 Graphical display



Abbreviation	Description	Abbreviation	Description
A	Passage width	B	Floor ring height
G	Passage height	I	Cladding height
J	Total height	Q	Total diameter
T	Exterior diameter	U	Interior diameter

3.1.1 Main mechanical components



Abbreviation	Description
a	**Drum wall** Curved, fixed aluminum frame for supporting curved glass or panelling.
b	**Drum wall edge** Fixed structure made of vertical frame profiling for accommodating control units.
c	**Rotation unit turnstile** Rotating inner part of the door.

3.2 Description of the manual revolving door

The system consists of three or four turnstile wings. They can be operated manually by horizontally or vertically mounted handles. The recommended direction of rotation is usually counterclockwise.

The turnstile can be locked individually by different locking systems. An optional night shield can be mounted on the system.

The ceiling lighting is usually controlled by an on-site light switch or a building management system.

Depending on the equipment a speed control brake is integrated. If the rotation speed of the system is too fast, caused by persons or wind, the speed control brake can be used to limit the speed to the preset value.

3.3 Safety features

3.3.1 Safety strips on turnstile wings

On the turnstile wings there are rubber safety strips.

The safety strips serve as protection to reduce bruising, for example of hands, feet and heels.

4 Options

4.1 Lighting control

The lights can be turned on or off via an on-site light switch or over the building control centre.

4.2 Speed control

Dependent on the configuration an electronic or hydraulic speed control is installed in the drive unit for safety reasons. This prevents the turnstile from spinning too fast when passing through the revolving door too quickly. The limitation of rotation speed can be adjusted on the speed control.

4.3 Foldable turnstile wings and/or foldable drum walls

The system can be equipped with hinged turnstiles and / or, in case of a three-wing system, with hinged drum walls.

If a turnstile leaf and/or a drum wall is manually opened, this condition is signaled to the system control via a monitoring switch. At the same time, the turnstile movement is immediately stopped in all operating modes and the system control is switched off.

To continue the set operating mode, all turnstile leaves and/or the drum walls must be manually reengaged in their original position.

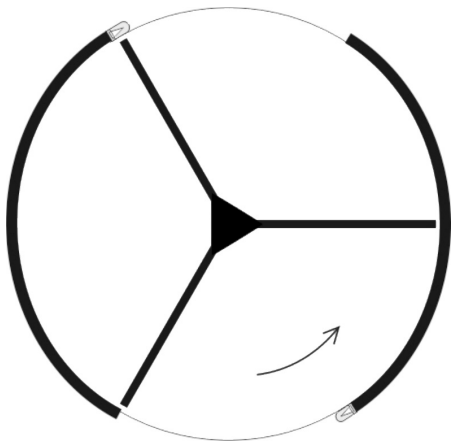
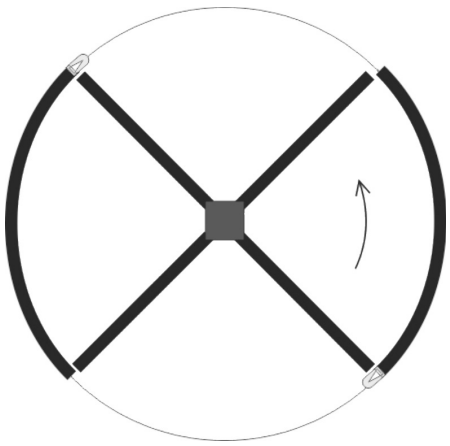
The turnstile starts automatically and continues the set operating mode.

Folding turnstile leaves are held in position by electrical or mechanical leaf locks.

Folding drum walls are held in position by magnets.

Basic positions

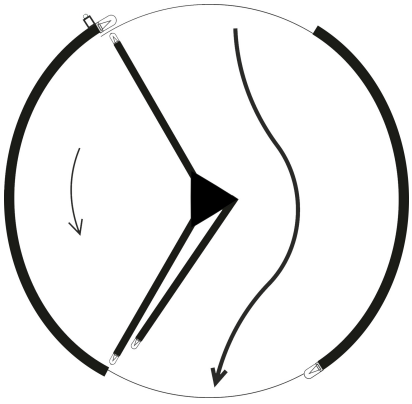
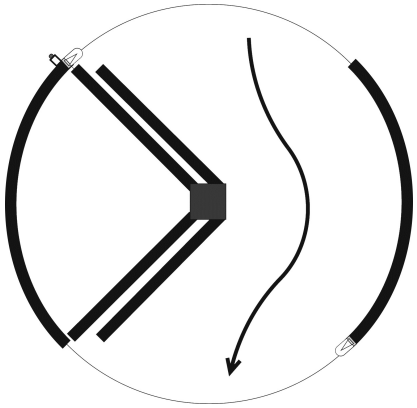
Inside

K32	K42
	

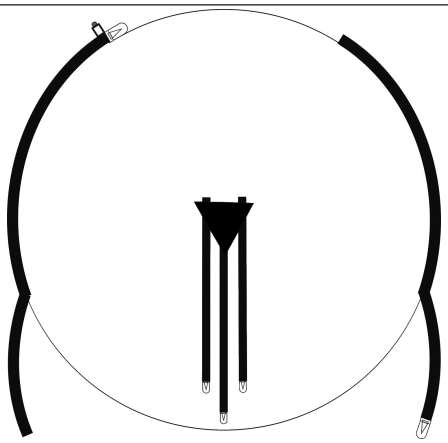
Outside

Folding positions

Inside

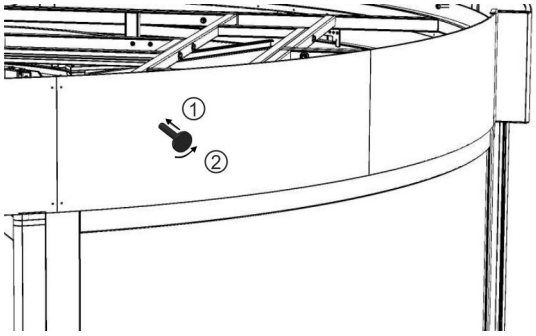
K32	K42
	

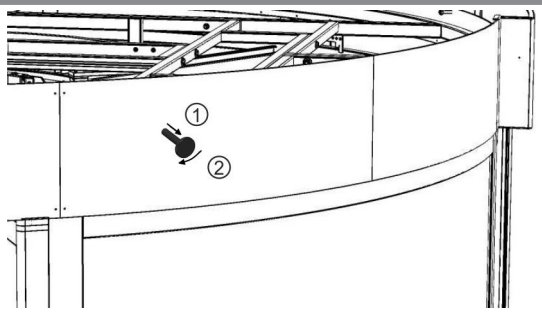
Outside

Folding drum walls only for K32
Inside

Outside

4.4 Turnstile lock mechanisms

4.4.1 Electromagnetic turnstile lock

Unlock the turnstile	
① Pull the knob	
② Turn the knob to the right until it stops and then release it.	

Lock turnstile	
① Turn the knob to the left.	
② Let the knob go and it should retract. Rotate the turnstile manually to the home position from the outside of the door until you hear the locking pin engage. Ensure that the turnstile can no longer be rotated manually.	

4.4.2 Electromagnetic turnstile lock (Fail Secure)

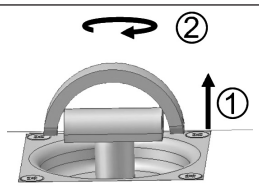
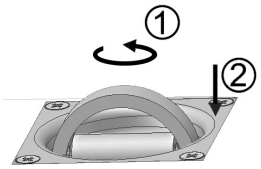
NOTICE

Fail Secure = Monostable locking, locked without current.

The system is equipped with a turnstile lock. In the operating mode LOCKED, the turnstile is automatically locked in the home position and unlocked when another operating mode is selected.

If the power supply fails, the status LOCKED or UNLOCKED is maintained. If the turnstile is locked in the event of a power failure, it can be unlocked by means of a manual unlocking device (bow handle).

Please note the following steps:

Unlocking the turnstile lock	
	– Pull the bow handle. – Turn bow handle to the right until it reaches the stop and release.
Reset turnstile lock	
	– Turn bow handle to the left. – Release bow handle, the bow handle must retract downwards.

4.4.3 Turnstile bar-bolt lock

The turnstile can be locked with a bar-bolt lock, integrated in the door frame profile. By rotating the profile cylinder together with the ceiling construction, and/or additionally with a fitted socket integrated in the floor.

4.4.4 Turnstile corner lock

The turnstile can be locked with a corner lock, at the bottom of the door frame profile. By rotating the integrated profile cylinder with a fitted socked integrated in the floor.

4.5 Night shield variations

4.5.1 Manual night shield

Night shield with mechanical bar-bolt lock or hook bolt lock

The night shield can be locked and unlocked with profile cylinder locks integrated in the door frames. If the night shield is in locked position, then it must be unlocked and completely pushed open manually.

Then the operating mode of the door can be selected.

4.5.2 Night shield - deadman

CAUTION

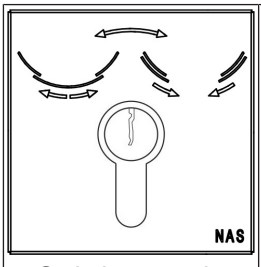
Night shield crushing danger

a) Fingers or hands getting crushed, sheared or pulled in

⇨ To avoid crushing, the operator must have a clear view of the night shield during the OPENING and CLOSING process.

NOTICE

If the night shield is manually locked (i.e. with a bar lock), then please ensure that the night shield wings are manually unlocked before using the key reversing switch.

 Switch example	It can be operated with the key reversing switch. **Opening process:** the night shield is opened by turning the key reversing switch to the right (see arrow direction) and holding the position. If the night shield is locked electrically, then it will simultaneously unlock. The opening process will stop when the key reversing switch is no longer being turned or held. The opening process will resume by turning the key to the right again and holding the position. **Closing process:** the night shield is closed by turning the key reversing switch to the left and holding the position. The closing process will stop when the key reversing switch is no longer being turned or held. If the night shield is locked electrically, then it will lock automatically in the locked position. **Collision detection:** if a night shield wing hits an obstacle during the opening or closing process, the night shield will stop and remain stopped. The next opening or closing process will start when the key reversing switch is turned and held in position again.

5 Specifications

5.1 Environmental conditions

Temperature range	From -15 to +50° C
Humidity range	Up to 85% rel. humidity, not condensing

5.2 Electrical connection data (optional)

Illumination	
Mains voltage:	230 VAC
Frequency:	50-60 Hz
Nominal power:	max. 120 W
Mains fuse:	10A circuit breaker with tripping characteristic C or K
Control voltage:	12 VDC
Safety class:	1
Degree of protection:	IP 20

Electrical night shield	
Mains voltage:	230 VAC
Frequency:	50-60 Hz
Nominal power:	max. 120 W
Mains fuse:	10A circuit breaker with tripping characteristic C or K
Control voltage:	24 VDC
Safety class:	1
Degree of protection:	IP 20

6 Servicing and maintenance

6.1 General remarks

According to current legislation, the operator of an automatic door system is responsible for its maintenance and safety.

Accidents or defects can be avoided if the system operator takes good care of the system.

Testing

Type of test	Measure
Visual inspection	Check door leaves, guides, bearings, limiting devices, sensors, and the securing of crushing and shearing points for damage.
Mechanical inspection	Check fastenings for tight fit.
Safety check (exit and escape routes)	Check sensors, safety devices, and monitoring devices for tight fit and damage.
Function testing	Check functioning of switches, operators, controllers, power or energy storage devices, and sensors. Also check the adjustment of the safety devices and the setting of all movement sequences including the end points.

Servicing

Type of servicing	Measure
Adjusting and cleaning	Clean and adjust bearings, sliding points, and power transmission.

For documentation and information purposes, the testing and servicing work as well as the condition of the system are recorded in a test log book. The test log book must be kept for at least one year or until the next testing/servicing.

IMPORTANT

The testing and/or servicing interval according to the manufacturer's specification is at least 1 to 2 times a year.

IMPORTANT

The recommended and planned spare parts and wearing parts can be requested from your service center.

6.2 Monthly inspection work performed by the operator

The monthly tests and inspections of individual components by the operator require little time and serve in particular to prevent accidents caused by improper handling of the system. Depending on the equipment of the plant, we recommend that the following inspection work be carried out on a monthly basis.

Test / Inspection	Procedure	Expected results
Visual inspection of all **safety strips**	– Visually inspect all safety strips.	– The safety strips can not have any mechanical damage and they must be installed correctly and firmly over the entire length.
Door leaves / Side screens	– Verify the state of the glazing. – Verify the state of the seals / profiles.	– No glass damage. – No seals torn off (energy loss). – The door is the "visit card" of your company. Take care that it is maintained in a perfect condition.

CAUTION

Danger of people being trapped inside the turnstile.

a) Bruises and contusions through from the turnstile wing.

⇨ Visual inspection, check whether people are trapped inside.

Visual inspection of the instructions and labeling (buttons / switches)	– Verify that all labels are present and legible.	– All labels must be present, legible and firmly applied.
Visual inspection of the floor covering	– Verify the floor covering for possible tripping hazards, unevenness, damages, and dirt accumulation.	– The floor covering must be free from tripping hazards, unevenness, damages and dirt accumulation.

CAUTION

Risk of burns, hot surfaces!

a) Risk of burning hands when replacing bulbs!

⇨ Allow bulb to cool at least 5 minutes before replacing and/ or wear protective gloves.

Visual inspection lighting	– Verify whether the lights are installed correctly and turn them on.	– Lights must be installed correct and function.
Function test **Night shield**	– Close and lock the night shield. – Push to verify whether the night shield is locked securely.	– The night shield is completely closed and locked.
Operator casing	– Check the attachment of the operator casing.	– It must be completely closed and must correctly engage into the hinges.
Function test of the **speed control brake**	– Rotate the turnstile faster than normal speed until automatic braking of the rotation occurs.	– The turnstile will be harder to push. – After reducing the rotation speed, the turnstile should be easier to push.
Function test of the **turnstile lock**, for example **bar bolt lock or corner lock**.	– Rotate the turnstile to the lock position. – Engage the lock. – Push to verify whether the turnstile is securely locked.	– The turnstile is securely locked.
Visual inspection of the glass label	– Verify that the label is present.	– The glass label must be firmly attached at eye level.

6.3 Cleaning and care

DANGER

Warning: risk of fatal electric shock!

a) Risk of death by electric shock

⇨ Do not touch the drive system while the main power is connected.

⇨ Do not spray water into the drive system.

NOTICE

If available, select the MANUAL operating mode before starting cleaning and additionally press an emergency stop switch.

IMPORTANT

The system must be kept free of dirt, leaves, snow and ice!

a) In case of heavy soiling contact a professional.

b) The use of road salt or gravel in front of the access areas and inside the plant must be avoided.

c) It is recommended to impregnate the safety strips and sensors with a water-repellent care product.

IMPORTANT

Any other cleaning agents not mentioned above must not be used!

What	Interval	Cleaning agent
General parts	Weekly	Damp cloth / neutral to slightly alkaline, aqueous wetting agent solution / vinegar diluted with water
Sensors / safety strips	Weekly	Plastics cleaner
Floor coverings	Weekly	Vacuum cleaner / carpet cleaner

7 Malfunctions

7.1 Conduct during malfunctions

IMPORTANT

If malfunctions that endanger the safety of individuals occur, the system must be turned off. It may not be turned back on until the problem has been resolved by a professional and the danger no long exists.

7.2 Tips for troubleshooting

Malfunctions	Causes	Solutions
No door function / power failure	– Power failure – Mains supply line interrupted – Fuse defective – Main switch off	– Check mains supply – Check main switch – Contact Service
Door will not lock	– Door in not quite in the locked position	– Push the door into the locked position
Door does not open	– Locking is stuck or jammed – Locking device defective	– Manual unlocking – Contact Service
Door does not close	– Obstacle in the protection area	– Remove obstacle – Contact Service
Power failure	– Fuse is blown – Fuse is defective – Main switch is off	– Check fuse – Check power supply – Check main switch

8 Taking out of service and disposal

8.1 Decommissioning

When shutting down or taking out of service, the system is disconnected from the mains supply and any existing battery is unplugged.

NOTICE

After each temporary shutdown a new commissioning must be carried out.

8.2 Dismantling and disposal

IMPORTANT

All machine parts must be sorted by type of material and disposed of according to local regulations and guidelines.

NOTICE

The door systems can be completely disassembled in reverse order.

The automatic door mainly consists of the following materials:

Aluminum:

- Linking profiles
- Gearbox, Drive panel
- Door wing profiles and side profiles
- Various profiles and small parts

Steel / iron parts:

- Stainless steel casing, Floor panel, Box recess for floor installation
- Optional spacer or reinforcement profiles
- Gear components, springs
- Various small parts like fittings, covers, linking parts, etc.

Glass:

- Door wings and side panels

Various electronic and electromechanical components:

- Sensors, control and operator components
- Lead batteries and nickel-cadmium rechargeable batteries

Various plastics:

- Rollers
- Cable clips, coupling and linking parts
- Sealing profiles
- Casing of electromechanical components and sensors

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